Claims

1. A semiconductor device arranged at a surface of a semiconductor substrate, having an initial doping, said device having an electrical connection comprising at least one plug made of a material with a high conductivity, between said initially doped substrate and said surface of the substrate, said device having at least one ground connection arranged to be connected to a ground pin on a package, wherein said at least one ground connection is arranged to be connected to said ground pin using said electrical connection, where said substrate is arranged to be connected to said ground pin via a reverse side of the substrate, opposite said surface, and thereby being arranged to establish a connection between said ground connection and said ground pin.

2. Semiconductor device according to claim 1, wherein , said material is of another type than the substrate.

3. Semiconductor device according to claim 2, wherein said at least one plug is a metal plug.

4. Semiconductor device according to claim 1, wherein said plug extends deeper into the substrate than therein introduced and/or existing PN-junctions.

5. Semiconductor device according to claim 1, wherein the upper end of each plug is connected to said ground connection via an electrically conductive material, especially a material with a high conductivity, especially a metal material.

6. Semiconductor device according to claim 1, wherein said semiconductor device is a high frequency device.

7. Semiconductor device according to claim 6, wherein said device is a power device.

8. Semiconductor device according to claim 6, wherein said device is a bipolar transistor and said ground connection is an emitter connection.

9. Semiconductor device according to claim 6, wherein said transistor is a MOS transistor and said ground connection is a source connection.

10. A semiconductor integrated circuit mounted in a package, said package having a plurality of pins connecting to the semiconductor circuit, and said circuit having a plurality of semiconductor devices, wherein at least one of said semiconductor devices is a semiconductor device according to claim 1.

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